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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,369	02/12/2004	Fatih M. Ozluturk	I-2-0085.7US	4594
24374 7590 05/29/2008 VOLPE AND KOENIG, P.C. DEPT. ICC UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103			EXAMINER TAYONG, HELENE E	
			ART UNIT 2611	PAPER NUMBER
			MAIL DATE 05/29/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/777,369

**Applicant(s)**

OZLUTURK, FATIH M.

**Examiner**

HELENE TAYONG

**Art Unit**

2611

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 5/6/08.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 7 is/are rejected.
- 7) ☒ Claim(s) 2-6 and 8-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date 3/6/08, 3/6/08

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### **Request for Continued Examination**

1. The request filed on 5/6/08 for a Request for Continued Examination (RCE) under 37 CFR 1.114 based on parent Application No. 10777369 is acceptable and RCE has been established. An action on the RCE follows.

### ***Claim Objections***

2. Claim 12 is objected to because of the following informalities: Claim 12 is objected to because it is dependent on method which is claim 7. The Examiner suggests changing claim 12 to be dependent on claim 7 instead of claim 1. The examiner also interpreted claim 12 to be dependent on claim 7. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heegard et al (Us 6823488) in view of Sato (US 5956328).

(1) with regards to claims 1 and 7;

Heegard et al in (figs. 5 and 6) a method for mapping (52) a pseudo-random code sequence (14) to a quadrature phase shift keying (QPSK) signal constellation (figs. 3, 7 and col. 3, lines 5-21) the method comprising:

- (a) determining a first multi-bit number (fig. 7, each triplet of output bits (000, 001, 010, 011, 100, 101, 110, and 111, col. 3, lines 7-9).
- (b) combining the first multi-bit number with a second multi-bit number to produce a resulting sum ( fig. 6, 64 and col. 2, lines 59-67 and col. 3, lines 1-5);
- (c) extracting (fig. 6) a first bit (lsb) and a second bit (msb) from the resulting sum( 64) of step (b); and
- (d) generating ( figs. 6 and 7) an I value and a Q value based on at least one of the first and second bits (col. 2, lines 6-10, fig. 7 and col. 3, lines 5-21).
- (e) storing ( fig. 6, 60) initial parameters as applied in claim 7 (col. 2, lines 56-67).

Heegard et al discloses all of the subject matter discussed above, but for explicitly teaching dividing a parameter M by a parameter N, wherein M and N are integers and M is selected to be relatively prime to N.

However, Sato in (fig. 1, 107) in the same endeavor (spread spectrum communications) discloses a spreading code generator(107) that generates spreading codes (SC-I, SC-Q). Two inputs symbol-rate clock signal CLK1 (M) and the chip-rate clock signal CLK2 (M/N) are supplied to the spreading code generation (107) for spreading supplied code generation (col. 4, lines 44-57).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the method as taught by Sato in the system of Heegard et al in

order to provide transmitting and receiving circuits in a CDMA system which is able to adopt QPSK for the first modulation with low variations in amplitude ( col.2, lines 20-23).

***Allowable Subject Matter***

5. Claims 2-6 and 8-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The prior art made of record Heegard et al (Us 6823488) discloses how codeword bits are mapped to a constellation according to a binary pseudo-random scramble sequence. Heegard et al does not teach wherein the second multi-bit number is greater than the first multi-bit number by a factor of two, wherein the I value is equal to one when the first bit is equal to zero.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. DeVane (US 5187676) discloses High-speed Pseudo-random number generator and method for generating same.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HELENE TAYONG whose telephone number is (571)270-1675. The examiner can normally be reached on Monday-Friday 8:00 am to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Liu Shuwang can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Helene Tayong/  
Examiner, Art Unit 2611

May 26, 2008

/CHIEH M FAN/  
Supervisory Patent Examiner, Art Unit 2611